The acceptance and experience of virtual-reality-enhanced exercise in older people

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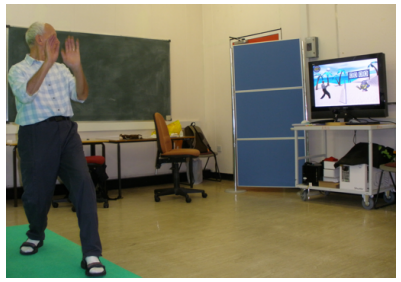
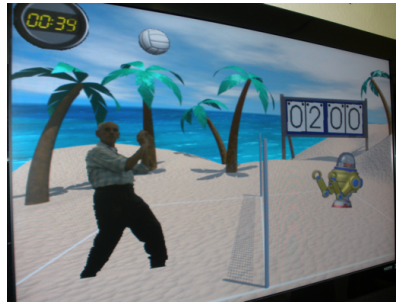
How do older people perceive and experience exercising in a virtual environment?





Regression

Repeated measures
one-way ANOVA

Moderator
analysis

Acceptable?

Yes?

No?

Why?

How?

Recruitment → **Data collection** → **Measurements via questionnaires[1-4]** → **Statistical analysis** → **Findings**

The results may have important implications for exercise promotion strategies for older people.

Teesside University

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INTRODUCTION

Virtual-reality (VR) has great potential for use in rehabilitation and exercise contexts[1–4]. Older people who exercise are generally healthier, more independent and enjoy a better quality of life compared to their sedentary peers. Given the previous evidence of advantages from VR supported physical activity programmes in different groups, the question if older people accept exercising in a virtual environment is of particular relevance.

Degree of acceptance may have important implications for future use and concordance to VR-enhanced exercise programmes. Therefore, this study investigates how older people perceive and experience virtual-reality-enhanced exercise

METHOD

Participants will take part in a six 40 minute exercise sessions over a three week period using the IREX™ VR system.

Outcome measures:
1) acceptance variables using the Modified Technology Acceptance Questionnaire[5]; (2) flow state of exercising with the IREX™ using the Flow Questionnaire[6]; (3) physical effort via the Borg Perceived Rate of Exertion Scale[7]; (4) mental effort via the Subjective Mental Effort Questionnaire (SMEQ)[8]; and (5) an overall evaluation using an open-ended question at the end of each exercise session. Statistical analysis will comprise regression, repeated measures one-way ANOVA and moderator analysis.

DISCUSSION and CONCLUSION

The findings of this study will help us to understand:

- the extent to which VR-enhanced exercise is accepted by older people,
- describe acceptance and experience before and after the programme, and throughout the six sessions, and
- identify any possible demographic explanatory factors.

The results may have important implications for exercise promotion strategies for older people.

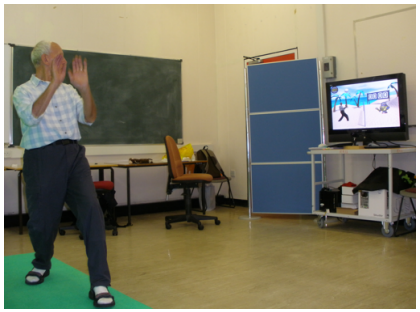

Figure 1: A model demonstrates the Volleyball game in a virtual-reality-enhanced exercise session.

Figure 2: The image of the model in the television screen.

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